

What is claimed is:

1. A device for measuring the flow velocity and/or the volumetric throughput of a fluid by means of ultrasound, having at least two ultrasound producing or ultrasound receiving elements (22) arranged on an outside of a wall (14) of a fluid pipeline (12) forming a measurement housing, characterized in that a portion (32) of the wall (14) forms an ultrasound emitting or receiving membrane (30) of an ultrasonic transducer (16), and the wall portion (32) forming the membrane (30) is dimensionally adapted to the ultrasonic transducer (16).
2. A device according to claim 1, characterized in that the ultrasonic transducer (16) is of a lengthwise oscillating type and a waveguide (26) is arranged between the ultrasound producing or receiving element (22) and the membrane (30).
3. A device according to claim 2, characterized in that a contact region (44) between the waveguide (26) and the wall portion (32) has a form-fitting configuration.
4. A device according to claim 3, characterized in that the contact region (44) between the waveguide (16) and the wall (32) has a spherical shape.
5. A device according to one of the preceding claims, characterized in that the wall portion (32) is thinner than the remainder of the wall (14).
6. A device according to one of the preceding claims, characterized in that the ultrasonic transducer (16) extends at least partly into the wall (14).
7. A device according to one of the preceding claims, characterized in that a cover (36) covers the ultrasonic transducer (16) extending into the wall (14).
8. A device according to one of the preceding claims, characterized by a spring (40) biasing the ultrasonic transducer (16) against the wall (32) forming the membrane (30).
9. A device according to one of the preceding claims, characterized in that the spring (40) is propped against the cover (36).

10. A device according to one of the preceding claims, characterized in that the ultrasonic transducer is arranged so that a measurement pathway lies outside a diameter of the pipe.